

FIG. 1A

**SECRET**

**FIG. 1B-1**

TGG AAC TTC CTG GAA TCC TTT TAT TTT TGT TTT ATT TCC CTG AGC ACC ATT GGC CTG	684
W N F L E S F Y F C F I S L S T I G L	228
GGG GAT TAT GTG CCT GGG GAA GGC TAC AAT CAA AAA TTC AGA GAG CTC TAT AAG ATT	741
G D Y V P G E G Y N Q K F R E L Y K I	247
GGG ATC ACG TGT TAC CTG CTA CTT GGC CTT ATT GCC ATG TTG GTA GTT CTG GAA ACC	798
G I T C Y L L L G L I A M L V V L E T	266
TTC TGT GAA CTC CAT GAG CTG AAA AAA TTC AGA AAA ATG TTC TAT GTG AAG AAG GAC	855
F C E L H E L K K F R K M F Y V K K D	285
AAG GAC GAG GAT CAG GTG CAC ATC ATA GAG CAT GAC CAA CTG TCC TTC TCC TCG ATC	912
K D E D Q V H I I E H D Q L S F S S I	304
ACA GAC CAG GCA GCT GGC ATG AAA GAG GAC CAG AAG CAA AAT GAG CCT TTT GTG GCC	969
T D Q A A G M K E D Q K Q N E P F V A	323
ACC CAG TCA TCT GCC TGC GTG GAT GGC CCT GCA AAC CAT TGA gcgtaggatttgttgcatt	1030
T Q S S A C V D G P A N H *	337
atgctagagcaccaggggtcaggggtgcaaggaagaggcttaagtattgttcatttttatcagaatgcaaaagcgaaaa	1106
ttatgtcactttaagaatatgctactgtttgcaatgtcttattaaaaacaacaaaaaagacacatggaacaaag	1182
aagctgtgacccagcaggatgtcctaataatgtgaggaaatgagatgtccacctaataattcatatgtgacaaaatta	1258
tctcgaccttacataggaggagaataacttgaagcagatgtctgtgtggttagaagcagattttatacttttaact	1334
ggaaactttggggtttgcatttagatcatttagctgatggctaaatagcaaaatttatatttagaagcaaaaaaa	1410
aaagcatagagatgtgtttataaataggtttatgtgtactggtttgcatgtacccacccaaaatgattattttg	1486
gagaatctaagtcaaactcactattttataatgcataaggaaccattaactatgtacataataaagtataaatatgtt	1562
tatattctgtacatatggttttaggtcaccagatcctagtgtagtcttgaaactaagactatagatatgttttct	1638
tttgatttctctttataactaaagaatccagagttgctacaataaaataagggaataataaaaaaaaaaaaaa	1712

FIG. 1B-2

00939483 . 082401

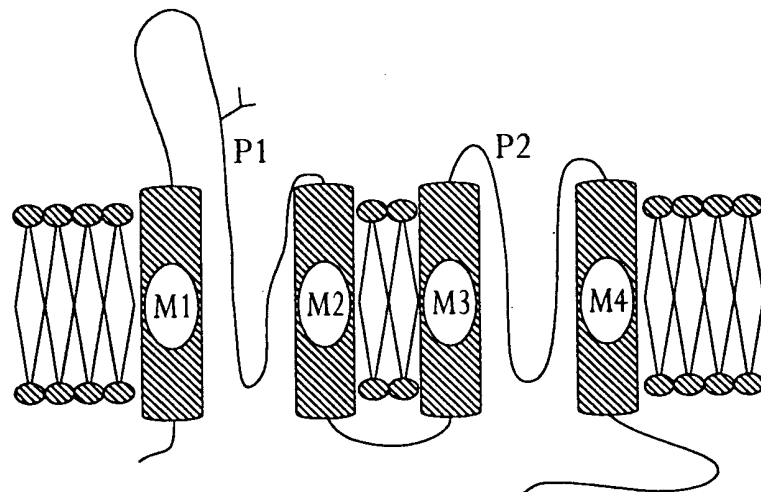
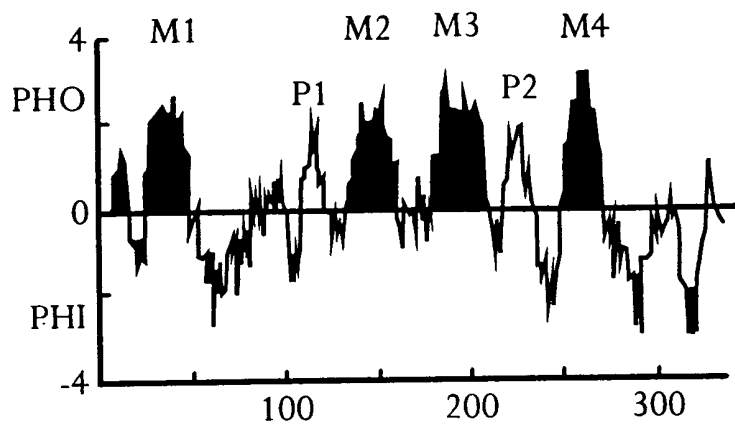


FIG. 1C

09939483-082401

	1	14	27
TWIK-1 P1	FTSALEFFASTVLSSTTGYGHTVPLSDGG		
TWIK-1 P2	ELESFYFCFLSLSTTGLGDIYVPGEYN		
TOK1 P2	YFNCIYFCFLCLLTIGYGDYAPRTGAG		
TOK1 P1	YGNALYECTVSLLTVGLGDTLPKSVGA		
Slo	YWTCVYELIVTMSITVGYGDVYCETVLG		
Shaker	IPDAFWWAVVTMTTVGYGDMTPVGFWG		
Shab	IPEAFWWAGLTMTTVGYGDI CPTALG		
Shal	IPAAFWYTTIVTMTTLGYGDMVPETIAG		
Shaw	IPLGLWWALVTMTTVGYGDMAPKTYIG		
KAT1	YVTALYWSITTLTTTGYGDFHAENPRE		
AKT1	YVTSMYWSITTLTTTVGYGDIHPVNTKE		
eag	YVTALYFTMTCTMTSVGEGNVAAETDNE		
ROMK1	MTSAFLFSLETQVTTIGYGFRFVTEQCA		
IRK1	FTAAFLFSIETQTTIGYGFRFVTEQCA		
GIRK1	FPSAFLFFIETEATIGYGYRYITDKCP		

FIG. 2A

TWIK-1 1 MLOS~~LAGSSCVREVE~~-----~~RHRSAWCF~~--GE-----~~LVLG~~Y  
 f17c8 1 MYTDEGEYSGDTHGGST~~MOKMSPNTRONFRONVNVVVCLSAATL~~--  
 M110-2 1 MTVSMEENSKI~~OMLSATSKDKKVATDRSLLNKVHLGPIALHTGLVLS~~C

TWIK-1 31 ~~LEYL~~VFGAVV~~ESSVELPYEDLLRQE~~-----LRK~~LKRRELEEHEC~~---L  
 f17c8 47 ~~LVENLI~~GAG~~IF~~-----~~YLAETONSSES~~  
 M110-2 49 ~~VTYAL~~GAY~~ELLS~~EH~~P~~-EEL~~KRREK~~AIREFQD~~LKQOFMGN~~ITSGIEN

TWIK-1 71 ~~SEOLEO~~LGRV~~L~~-----EAS~~NGVSVLSNASGNWNW~~--D~~TSAL~~I  
 f17c8 69 LNENSEV--SKCLHNLPIGGKIT~~AE~~MKSK~~L~~GK~~CTKSS~~RIDGE~~G~~KA~~IT~~  
 M110-2 96 ~~SEOS~~E~~EL~~YTK~~KL~~LM~~EDAHNAHAEYFFLNRE~~L~~PKDMW~~--T~~ESSAL~~V

P1

TWIK-1 110 ~~FASTV~~ESTTGYGHTV~~PLSDGGKAFCTL~~-Y~~SV~~EGIP~~FTLL~~NTAVVORI  
 f17c8 115 ~~FSWT~~LYSTVGYGSE~~PHSTLGRY~~ITIF-Y~~SL~~LMIPV~~FIA~~KFEFG~~CTFL~~  
 M110-2 142 ~~FTTT~~VPVGYGY~~EPVSAYGR~~-M~~CL~~AYAL~~LGIP~~TL~~VT~~MD~~ITCK~~EA

TWIK-1 157 ~~TVH~~---V~~TRRPVL~~-----Y~~EH~~ERW~~GESKOV~~VATVHAV~~LLG~~VTVSC~~FF~~  
 f17c8 162 AHFLVV~~VSNR~~TRLAVKKA~~YKLS~~-ONPENAETPSN~~SLOHDYL~~FLSS~~I~~  
 M110-2 189 AQL---V~~TR~~-----W-~~FGDNN~~MA~~IPAA~~ITV-----~~CL~~I

P2

TWIK-1 197 ~~FL~~-~~PA~~AVFS--~~VL~~-EDDWN~~ELESFYECFIS~~ESTIG~~LDY~~VPGE~~GYN~~  
 f17c8 209 ~~LLCSE~~SL~~SSA~~EFSS~~INISYLSSVYKFGITMFLIG~~IGD~~IVPTN~~---  
 M110-2 213 ~~FAYPL~~VGF--~~LC~~STSNIT~~YLD~~SVYFS~~ITSIFTIG~~FGD~~LTP~~---

TWIK-1 239 QKFR~~EYKIG~~ETCY~~LLGLIAM~~VLETFC----EL~~HE~~LK~~KR~~-----  
 f17c8 254 -----~~LVW~~FSGYC~~MLFLISDVL~~SNQ~~IFY~~FCQARV~~RYFFH~~LARK~~EL~~  
 M110-2 253 -----~~DMNV~~TH~~ML~~V~~L~~LA~~VGV~~LV~~TL~~LD~~IVA~~---AEM~~DRVHYMGR~~HYG

TWIK-1 278 -----~~KMEY~~VKKDK~~DED~~OVH~~LIEHD~~OL-----S~~ES~~ST~~DOA~~AGMK~~ED~~  
 f17c8 295 LLRE-EDDGFOLETT~~VSL~~OH~~PIINSQCMP~~SL-----VLDCEKEEL~~OND~~  
 M110-2 294 KAKELAGK~~MFOLAQ~~ST~~LN~~KOGL~~VSGV~~GOLH~~ALAREG~~MLV~~GREEN~~DKTQ

TWIK-1 315 ~~QK~~ONEP~~EVAT~~-----Q~~SS~~ACVD~~G~~PANH-----  
 f17c8 338 ~~EKL~~ISS~~LEST~~-----  
 M110-2 342 ~~EDGL~~IA~~FSPD~~VMDGLEFMD~~TL~~SIYSRRS~~RRSA~~ENSA~~RNL~~FLS

FIG. 2B

09930483-082401

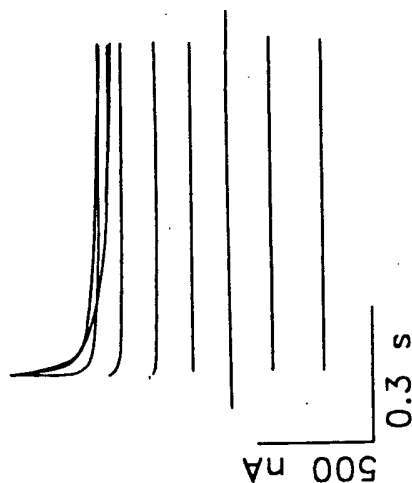


FIG. 3A

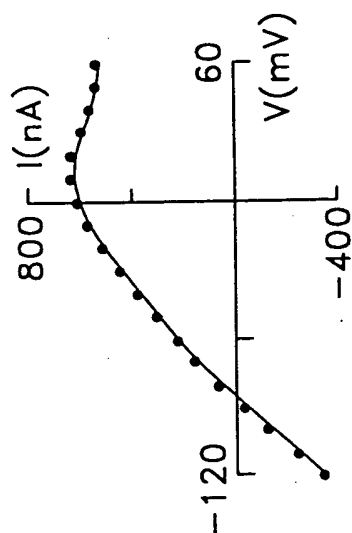


FIG. 3B

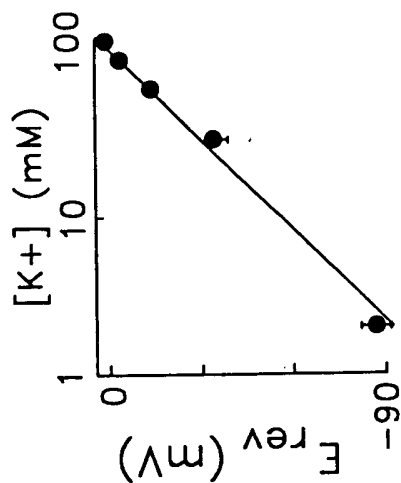


FIG. 3C

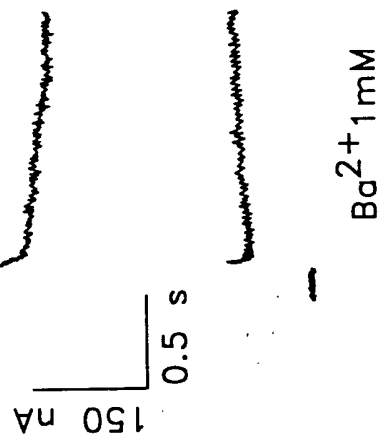


FIG. 3D



FIG. 3E

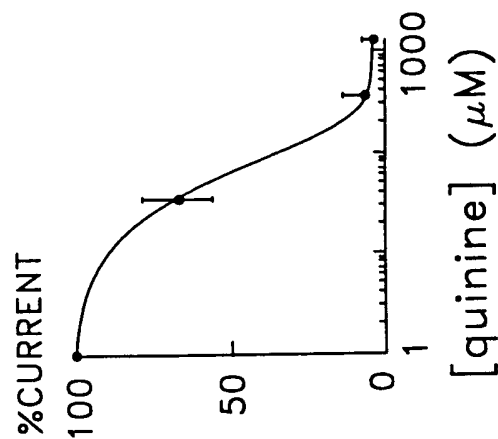


FIG. 3F

FIG. 4A

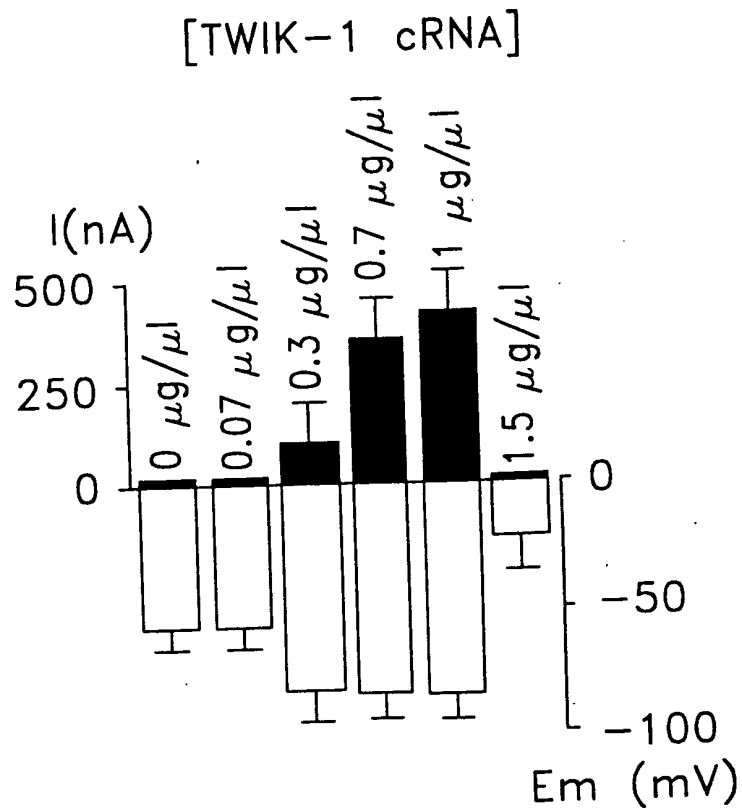


FIG. 4B

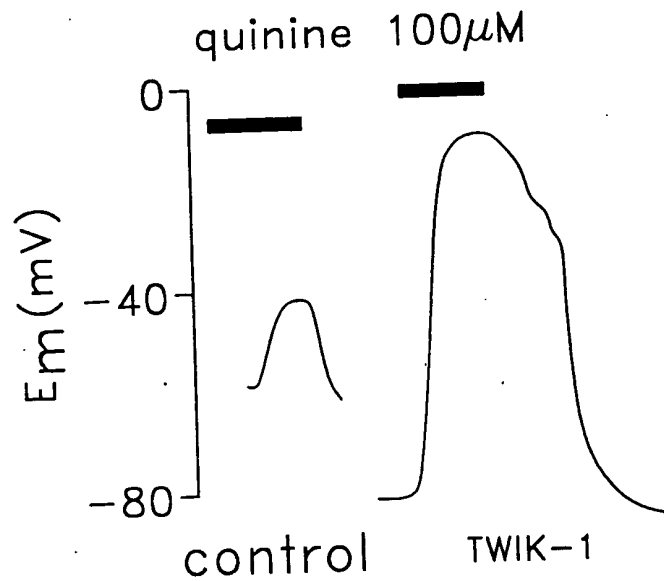
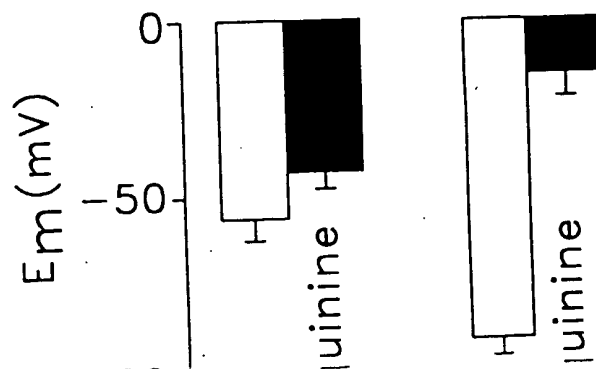


FIG. 4C





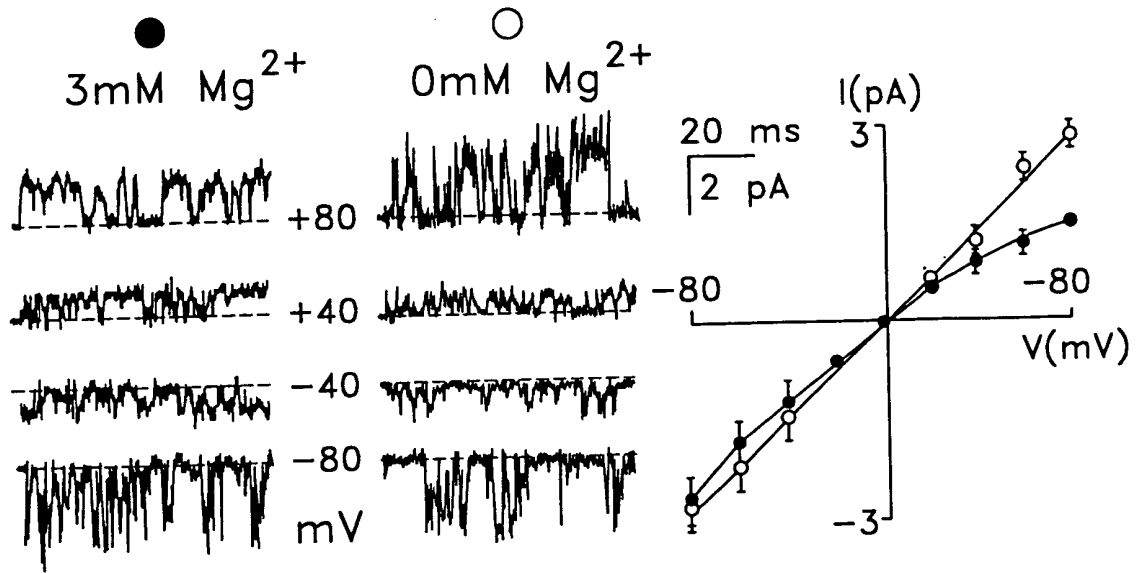


FIG. 5A

FIG. 5B

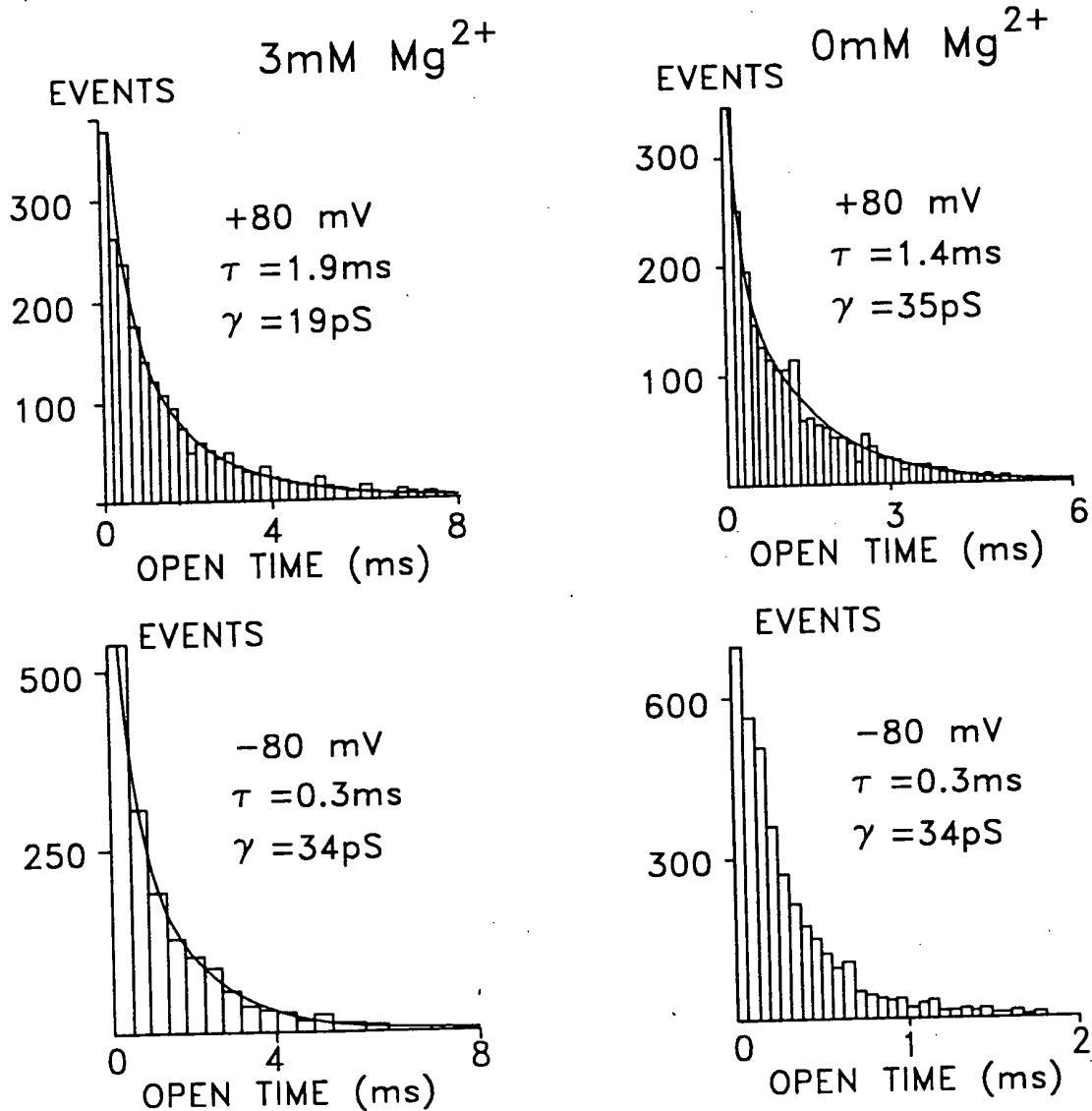
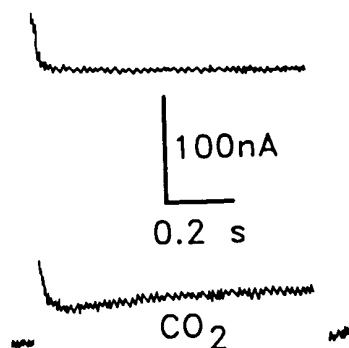


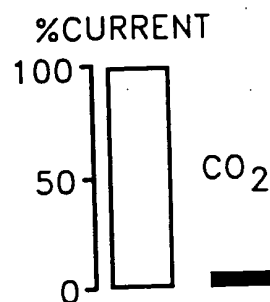
FIG. 5C

FIG. 5D

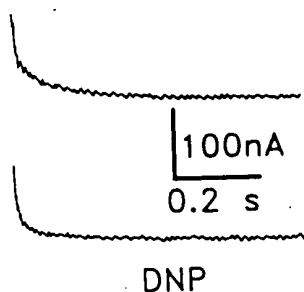
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**FIG. 6A**



**FIG. 6B**



**FIG. 6C**

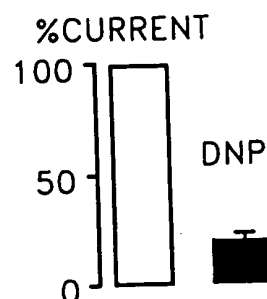
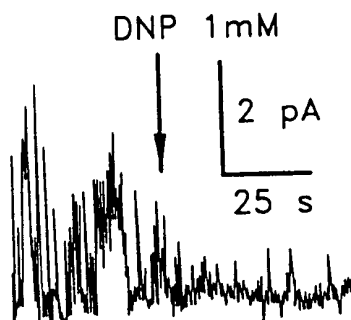
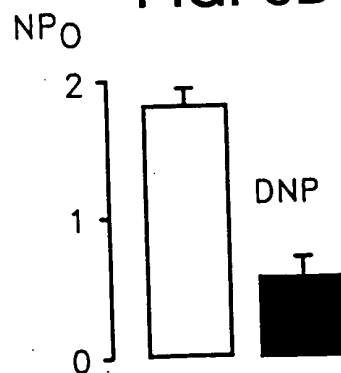


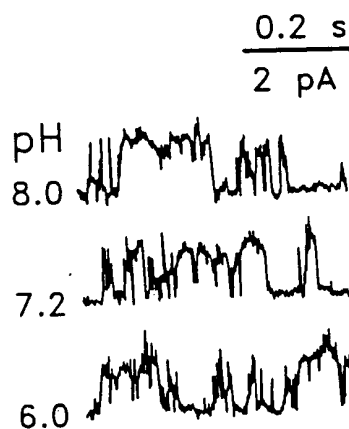
FIG. 6D



**FIG. 6E**



**FIG. 6F**



**FIG. 6G**

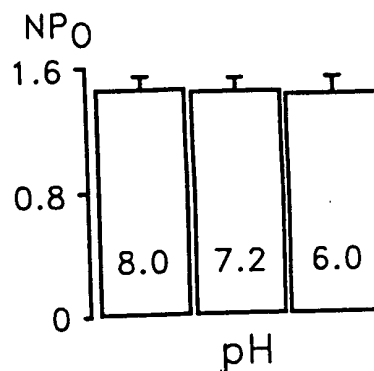


FIG. 6H

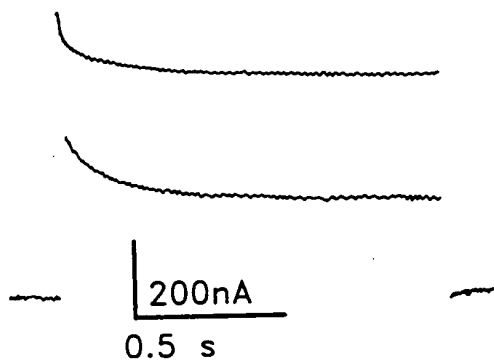


FIG. 7A

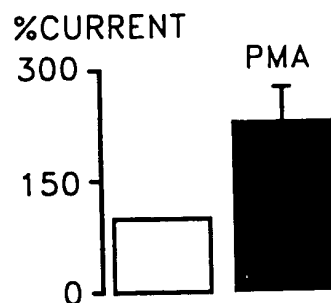


FIG. 7B

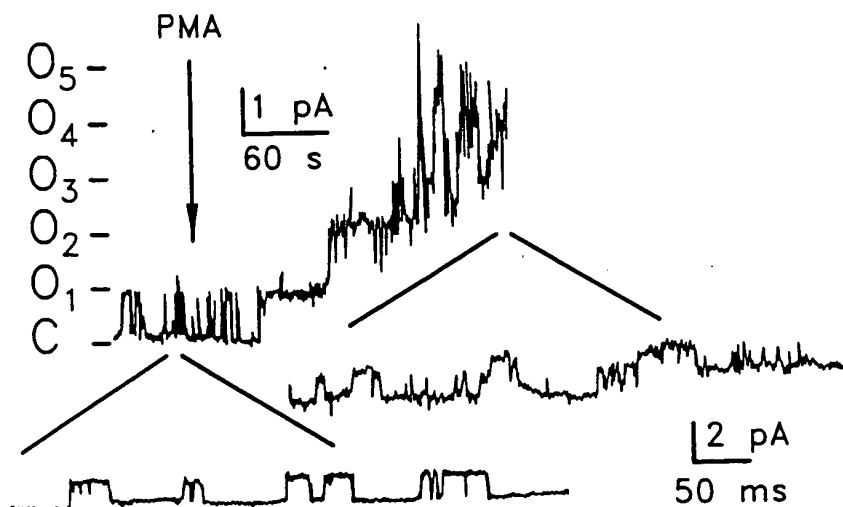


FIG. 7C

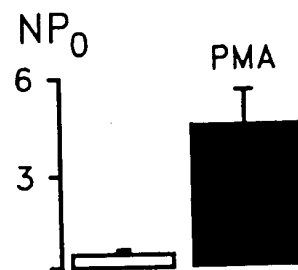


FIG. 7D

00939483-082401

tgccctgcgcggatagcggcgagcgcagccatgccccagggcgcctccg -77  
 gggcagcagcagcggcgccggggccgatgcgcgggcccggggcgccggggccggcgccggggcgggacg -1

ATG AAG CGG CAG AAC GTG CGC ACG CTG GCG CTC ATC GTG TGC ACC TTC ACC TAC CTG 57  
 M K R Q N V R T L A L I V C T F T Y L 19  
 E N V R T L A L I V C T F T Y L

CTG GTG GGC GCC GCG GTC TTC GAC GCG CTG GAG TCG GAG CCC GAG CTG ATC GAG CGG 114  
 L V G A A V F D A L E S E P E L I E R 38  
 L V G A A V F D A L E S E P E M I E R

CAG CGG CTG GAG CTG CGG CAG CAG GAG CTG CGG GCG CGC TAC AAC CTC AGC CAG GGC 171  
 Q R L E L R Q Q E L R A R Y N L S Q G 57  
 Q R L E L R Q L E L R A R Y N L S E G  
 \*

GGC TAC GAG GAG CTG GAG CGC GTC GTG CTG CGC CTC AAG CCG CAC AAG GCC GGC GTG 228  
 G Y E E L E R V V L R L K P H K A G V 76  
 G Y E E L E R V V L R L K P H K A G V

CAG TGG CGC TTC GCC GGC TCC TTC TAC TTC GCC ATC ACC GTC ATC ACC ACC ATC GGC 285  
 Q W R F A G S F Y F A I T V I T T I G 95  
 Q W R F A G S F Y F A I T V I T T I G

TAC GGG CAC GCG GCA CCC AGC ACG GAT GGC GGC AAG GTG TTC TGC ATG TTC TAC GCG 342  
 Y G H A A P S T D G G K V F C M F Y A 114  
 Y G H A A P S T D G G K V F C M F Y A

CTG CTG GGC ATC CCG CTC ACG CTC GTC ATG TTC CAG AGC CTG GGC GAG CGC ATC AAC 399  
 L L G I P L T L V M F Q S L G E R I N 133  
 L L G I P L T L I M F Q S L G E R I N

ACC TTG GTG AGG TAC CTG CTG CAC CGC GCC AAG AAG GGG CTG GGC ATG CGG CGC GCC 456  
 T L V R Y L L H R A K K G L G M R R A 152  
 T E V R Y L L H R A K E G L G M R H A

GAC GTG TCC ATG GCC AAC ATG GTG CTC ATC GGC TTC TTC TCG TGC ATC AGC ACG CTG 513  
 D V S M A N M V L I G F F S C I S T L 171  
 E V S M A N M V L I G F V S C I S T L

TGC ATC GGC GCC GCC GGC TTC TCC CAC TAC GAG CAC TGG ACC TTC TTC CAG GCC TAC 570  
 C I G A A A F S H Y E H W T F F Q A Y 190  
 C I G A A A F S Y Y E E W T F F Q A Y

TAC TAC TGC TTC ATC ACC CTC ACC ACC ATC GGC TTC GGC GAC TAC GTG GCG CTG CAG 627  
 Y Y C F I T L T T I G F G D Y V A L Q 209  
 Y Y C F I T L T T I G F G D Y V A L Q

AAG GAC CAG GCC CTG CAG ACG CAG CCG CAG TAC GTG GCC TTC AGC TTC GTC TAC ATC 684  
 K D Q A L Q T Q P Q Y V A F S F V Y I 228  
 K D Q A L Q T Q P Q Y V A F S F V Y I

CTT ACG GGC CTC ACG GTC ATC GGC GCC TTC CTC AAC CTC GTG GTG CTG CGC TTC ATG 741  
 L T G L T V I G A F L N L V V L R F M 247  
 L T G L T V I G A F L N L V V L R F M

FIG. 8A

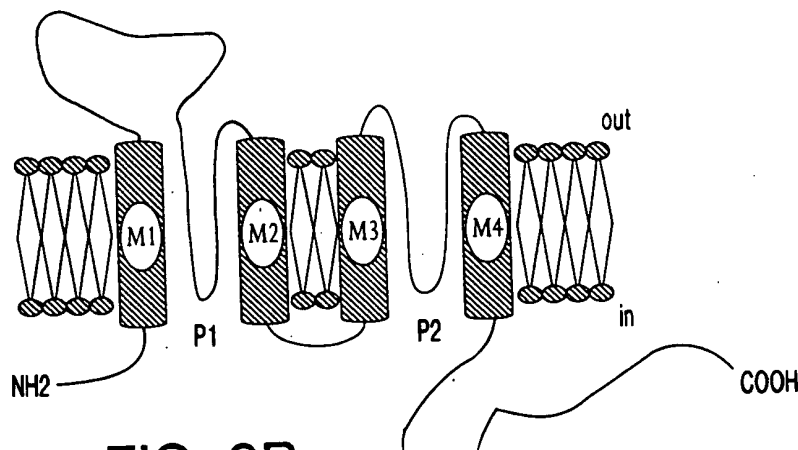
09939493-082401

ACC	ATG	AAC	GCC	GAG	GAC	GAG	AAG	CGC	GAC	GCC	GAG	CAC	CGC	GCG	CTG	CTC	ACG	CGC	798
T	M	N	A	E	D	E	K	R	D	A	E	H	R	A	L	L	T	R	266
T	M	N	A	E	D	E	K	R	D	A	E	H	R	A	L	L	T	H	
AAC	GGG	CAG	GCG	GGC	GGC	GGC	GGA	GGG	GGT	GGC	AGC	GCG	CAC	ACT	ACG	GAC	ACC	GCC	855
N	G	Q	A	G	G	G	G	G	G	G	S	A	H	T	T	D	T	A	285
N	G	Q	A	V	G	L	G	G	L	S	C	L	S	G	S	L	G	D	
TCA	TCC	ACG	GCG	GCA	GCG	GGC	GGC	GGC	GGC	TTC	CGC	AAC	GTC	TAC	GCG	GAG	GTG	CTG	912
S	S	T	A	A	A	G	G	G	G	F	R	N	V	Y	A	E	V	L	304
VRPRDPV	TC	AA	A	A	G	G	G	G	G	F	R	N	V	Y	A	E	V	L	
CAC	TTC	CAG	TCC	ATG	TGC	TCG	TGC	CTG	TGG	TAC	AAG	AGC	CGC	GAG	AAG	CTG	CAG	TAC	969
H	F	Q	S	M	C	S	C	L	W	Y	K	S	R	E	K	L	Q	Y	323
H	F	Q	S	M	C	S	C	L	W	Y	K	S	R	E	K	L	Q	Y	
TCC	ATC	CCC	ATG	ATC	ATC	CCG	CGG	GAC	CTC	TCC	ACG	TCC	GAC	ACG	TGC	GTG	GAG	CAG	1026
S	I	P	M	I	I	P	R	D	L	S	T	S	D	T	C	V	E	Q	342
S	I	P	M	I	I	P	R	D	L	S	T	S	D	T	C	V	E	H	
AGC	CAC	TCG	TCG	CCG	GGA	GGG	GGC	GGC	CGC	TAC	AGC	GAC	ACG	CCC	TCG	CGA	CGC	TGC	1083
S	H	S	S	P	G	G	G	G	R	Y	S	D	T	P	S	R	R	C	361
S	H	S	S	P	G	G	G	G	R	Y	S	D	T	P	S	H	R	C	
CTG	TGC	AGC	GGG	GCG	CCA	CGC	TCC	GCC	ATC	AGC	TCG	GTG	TCC	ACG	GGT	CTG	CAC	AGC	1140
L	C	S	G	A	P	R	S	A	I	S	S	V	S	T	G	L	H	S	380
L	C	S	G	T	Q	R	S	A	I	S	S	V	S	T	G	L	H	S	
CTG	TCC	ACC	TTC	CGC	GGC	CTC	ATG	AAG	CGC	AGG	AGC	TCC	GTG	TGA	ctgccccgaggggacc				1200
L	S	T	F	R	G	L	M	K	R	S	S	V							395
L	A	A	F	R	G	L	M	K	R	R	S	S	V						
tggagcacctg	ggggcg	cgggcg	ggggcg	ggggcg	ggggcg	ggggcg	ggggcg	ggggcg	ggggcg	ggggcg	ggggcg	ggggcg	ggggcg	ggggcg	ggggcg	ggggcg	ggggcg	ggggcg	1276
ggacccccgc	cacaac	atccct	caccact	ctcccc	cagc	accccc	atctcc	gactgt	gcctgt	gtgc	accag	ccggca							1352
ggagggccgg	gctctg	gaggac	ccctgg	ggggcccc	atcg	gagccct	gcaaatt	ccgaga	aatgtg	aaactt	gggtgg								1428
tcagggagga	aaagc	agaagct	gggagc	ctccct	ctccct	ttgaaa	atcta	agaagc	tcccag	tcctc	agagac	ccct							1504
gctgggtacc	acaccccc	accttc	cgagggg	acttcat	gttccg	gtgtac	gtttgc	atctct	tatttt	tata	acctct	gtcct							1580
gctaggtet	ccccac	cttccct	tggttcc	aaaagc	agggtg	tctatg	tccaag	tacccct	actcag	ccccact	cc								1656
ccctcctc	atcccc	agctgt	gtgtct	cccaac	ctccct	tcgtgt	gttttg	catggc	tttg	cagttat	ggagaa	agt							1732
gaaacc	cagcag	tcctaa	agctgg	tcccc	gaaaag	caggac	agaaag	aggagg	gacagg	caggc	aggagg								1808
gagagctgg	gaggc	aggcag	cgccct	gtcagt	ctgc	agaatg	gtcg	actgg	aggtt	caagc	taactg	ggcct							1884
cagccac	attctc	atagc	aggtagg	acttc	agcctt	ccagac	actg	ccctt	tagaat	ctgga	acaga	agactt	caga						1960
ctcacc	ataatt	gtgata	attac	ccactc	ttaaat	ttgtcg	agtgat	tttt	tagc	ctctg	aaaact	ctatg	ctggc						2036
cactgat	tccttt	gagctc	cacaaa	accct	acttag	gtcat	caggc	aggag	ttctc	actccc	atttt	acagat	ga						2112
gaatact	gaggc	ctgg	acaggt	gaagt	gacc	agag	agc	aaaagg	c	aaagg	gggtg	ggggg	ctgggt	gcag	tggtc	cac			2188
acctgt	attcc	caac	actttt	ggagg	ctgag	gttgg	aggatt	gtctt	gagccc	agga	attcg	agacc	agcct	aggtg					2264
acatagt	gagcccc	atctc	tacaaaa	ataaaaa	attaa	accag	gtgtg	gtggc	cagtg	gcctg	gggag	tccc	agcga						2340
cttggg	aggctg	agggtg	ggagg	attgtt	tgagc	ctggg	agggtc	gaggct	gtagt	gagcc	ctgatt	gcacc	actgt						2416
ctccagc	ctgggt	gacagg	gcaag	accctg	ctca	aaaaaaaa													2465

FIG. 8B

	1	-----MLQSLAGSSCVR-----LVERHRS---
	1	MAAPDLDLPKSAQNSKPRLSFSSKPTVLA SRVESDSA
	1	-----MKR-----Q-NVR-----
		M1
TWIK-1	20	-----ANCFG-FLVLGYLLYL VFGAVVFSSVELPYEDLL
TREK-1	39	INVMKVKTVSTIFLVVLYLIIGAAVFKALEQOEISQ
TASK	8	-----TLALIVCTETYL LVGA AVFDALESEPELIE
		M2
TWIK-1	53	ROELRKLKRRFLEEHECLSEQOLEQFLGRVLEASNYGV
TREK-1	77	RTTIVIQKQTFIAQHACVNSTELDEL IQQIVAAINAGI
TASK	38	RORLELRQDELRRARYNLSQGG-YEELERVVLRLKPKHA
		P1
TWIK-1	91	SVLSNASG-NWNDFTSALFFASTVLSTGYGHTVPLS
TREK-1	115	IPLGNSSNQVSHDLGSSFFFACTVITTIGEGNISPR
TASK	75	G-----VQ-NREAGSFYFAITVITTIGYGHAPST
		M2
TWIK-1	128	DGGKAFCCIYSVIGIPFTLLFLTA VVQRITVHVTR--R
TREK-1	153	E3GKIFCCIYALLGIPLEGFTLLAGVGDOLGTIFGKGIA
TASK	104	DGGKVFCCMYALLGIPFTLLVMFOSLGERINTLVRY---
		M3
TWIK-1	164	PVLYFHIRNGESKQVVAIVHAVLGGFVTVSCFFIPAA
TREK-1	191	KVEDTFIKWNVSOTKIRIISTILFLLFGCVLEVALPAV
TASK	139	LEHRAKKGLGMRRADVSMANMVLIGFFSCISTLCIGAA
		P2
TWIK-1	202	VFSVLEDDNFLESFYFCFISLSTIGLGDYVPEGE-GYN
TREK-1	229	IFKHIEG-WSALDAIVFVITLTTIGFGDYVAG--GSD
TASK	177	AFSHYEH-WTEFOAYVYCFITLTTIGFGDYVALQKDQA
		M4
TWIK-1	239	OKRELYKIGITCYLLGLIAMLVLETFCELHELKFP
TREK-1	264	IEYLDYKPVVWFMLVGLAYFAVLSMIGDWLRVISK
TASK	214	LQTQPOQYVAESFVILTGLTVIGAFELNLVVLRFMTMNA
		P1
TWIK-1	277	RKMFYVKKDKD-----
TREK-1	302	KTKEEVGEFR-----
TASK	252	EDEKRDAEHRALLTRNGQAGGGGGGSAHTTDTASSTA
		P2
TWIK-1	288	-----EDQVHIIIEHDQLSFSSITDQAAGMK--
TREK-1	312	-----AHAAEW TANVTAEFKETRRLSVEI--
TASK	290	AAGGGGFRNVYA EVLH FQSMCSCLWYKSR EK LQYSI PM
		P1
TWIK-1	313	---EDQKQNEPFVATQSSACVDGPANH-----
TREK-1	337	---YDKFQRATSVKRKLSAELAGNHNQELTPCMRTCL-
TASK	328	IIPRDLSTSDTCVEQSHS SPGGGGGRYS DTPSRRC L C SG
		P2
TWIK-1	337	-----
TREK-1	371	-----
TASK	366	APRSAISSVSTGLHSLSTFRGLMKRRSSV

FIG. 9A



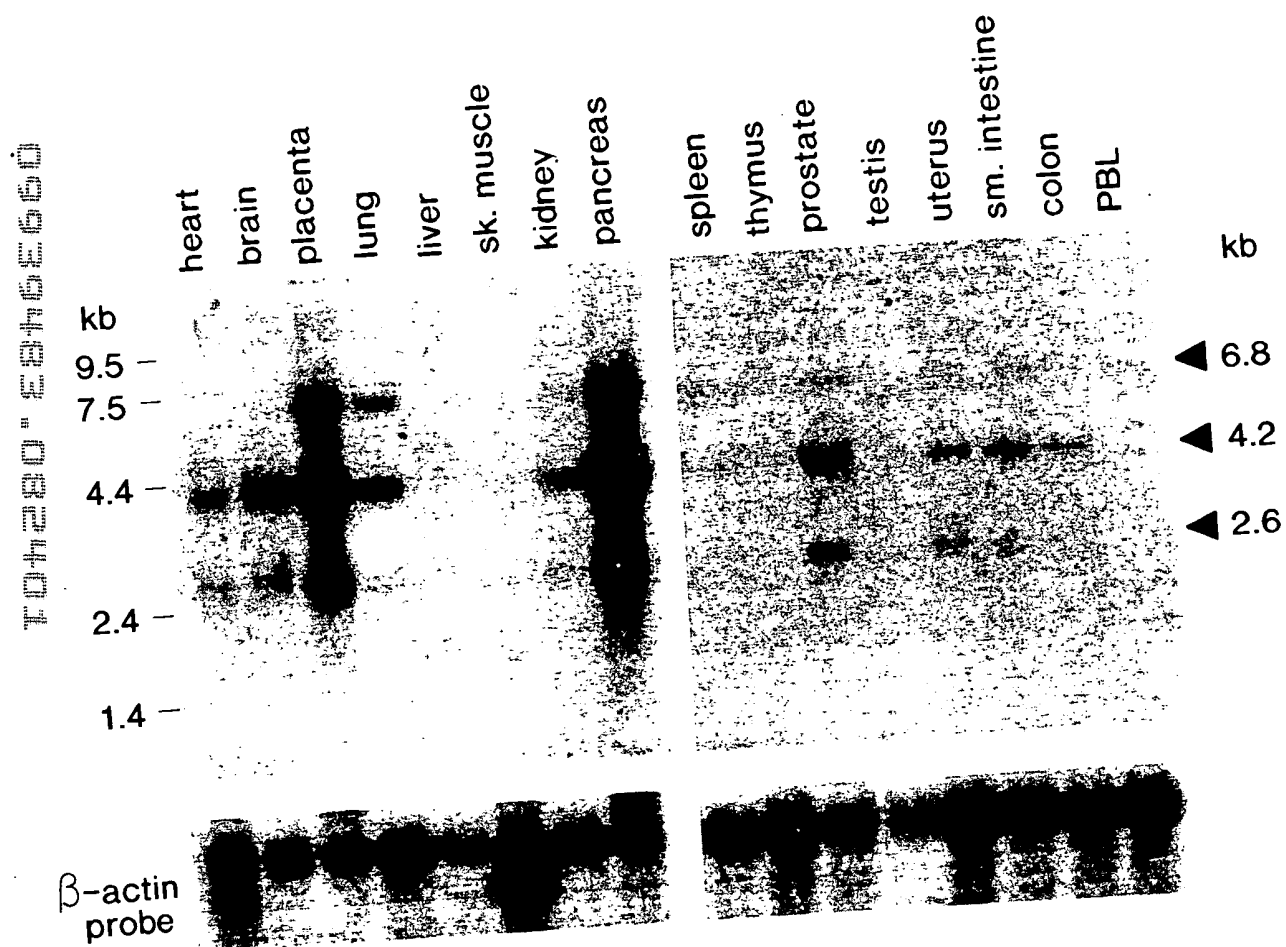


FIG. 10

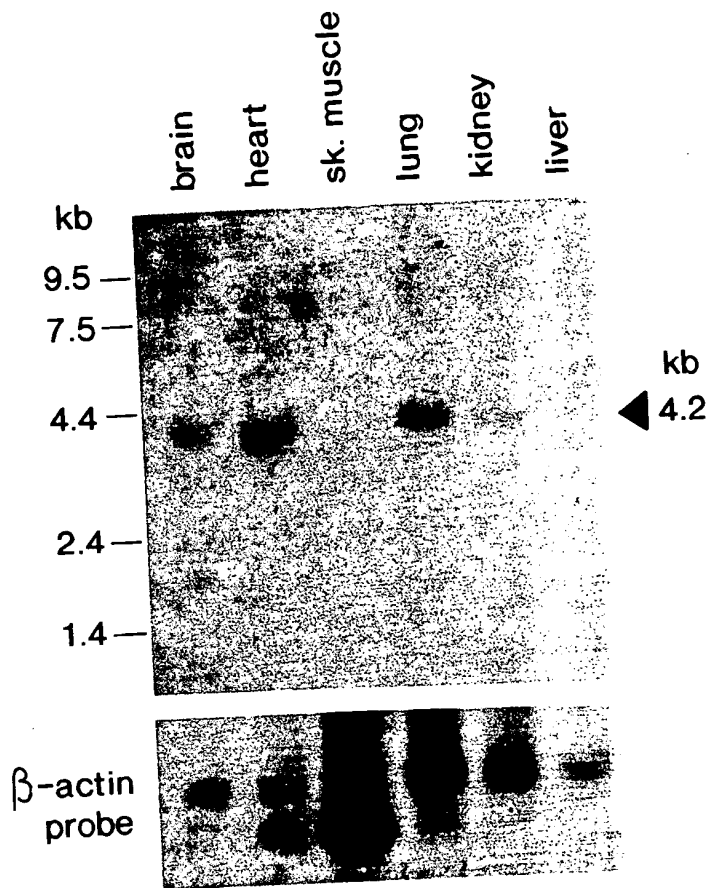


FIG. 11A

FIG. 11B

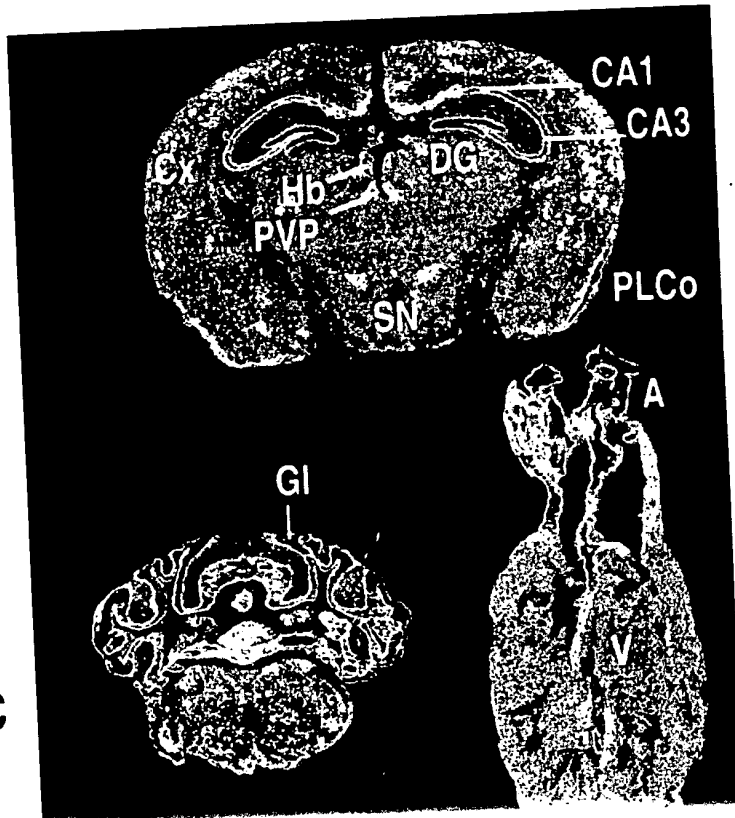


FIG. 11C

FIG. 11D



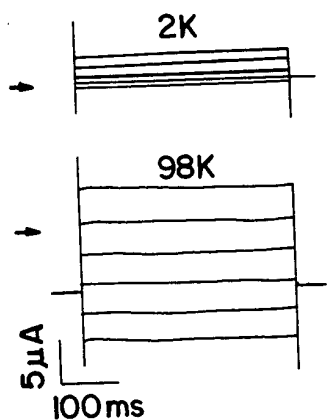


FIG. 12A

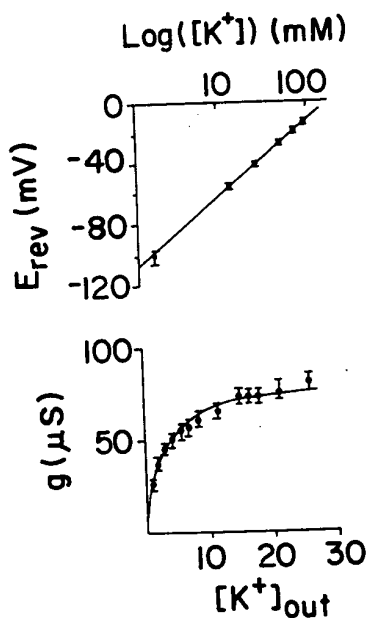


FIG. 12C

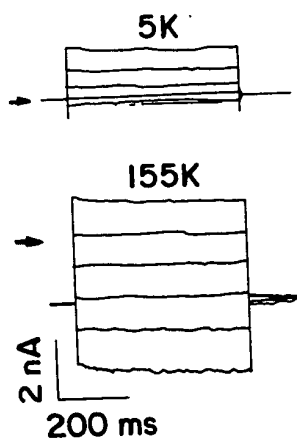


FIG. 12E

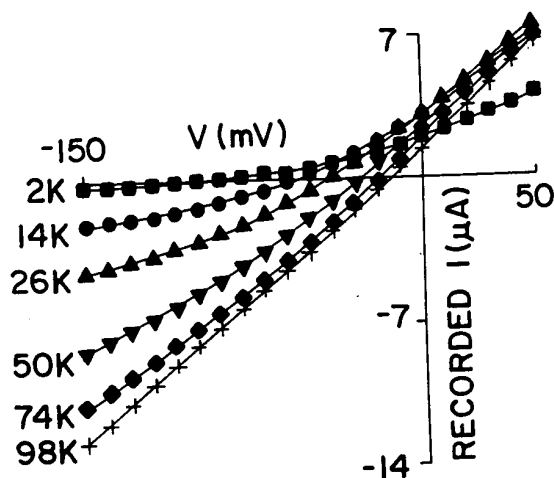


FIG. 12B

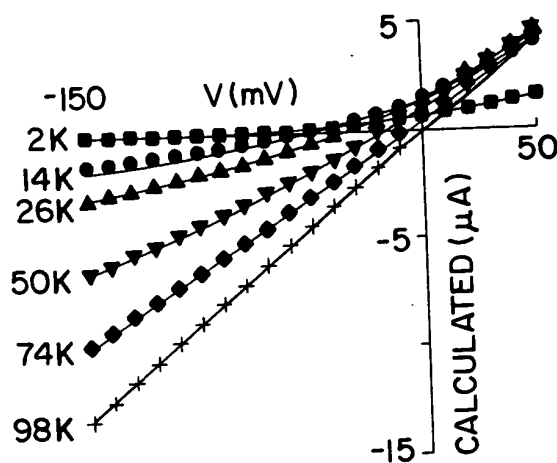


FIG. 12D

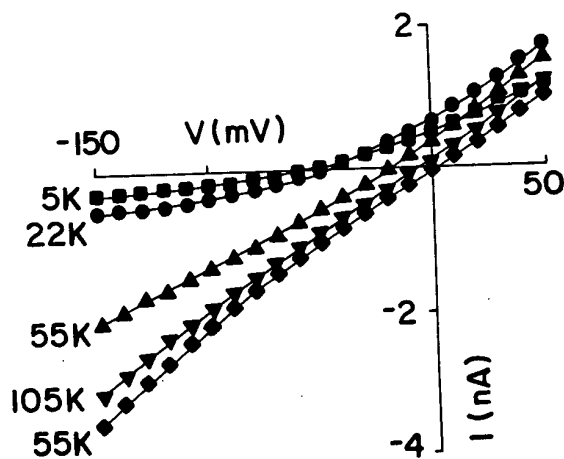


FIG. 12F

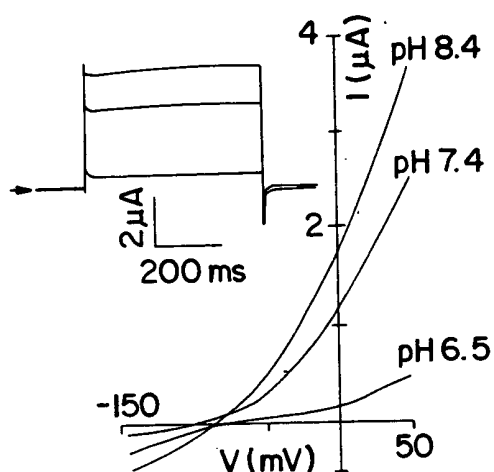


FIG. 13A

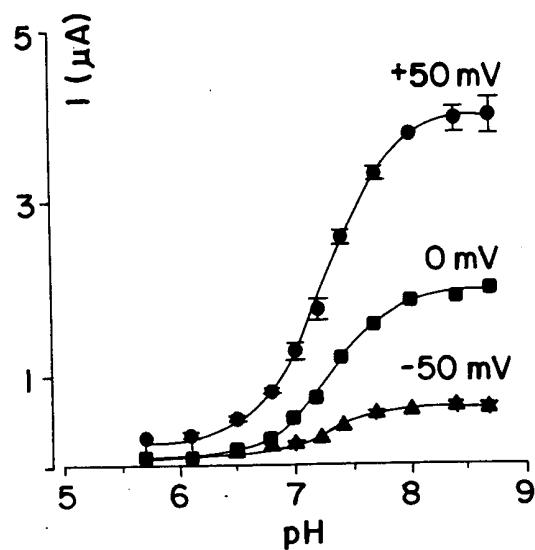


FIG. 13B

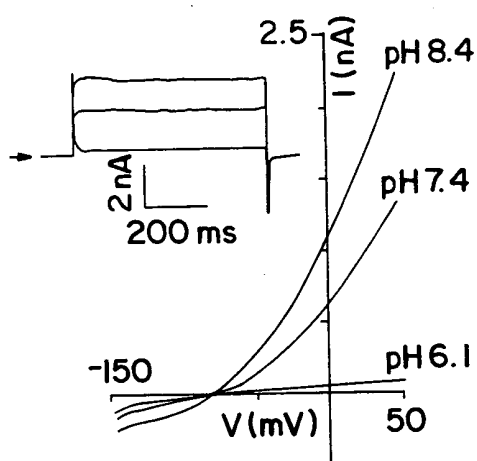


FIG. 13C

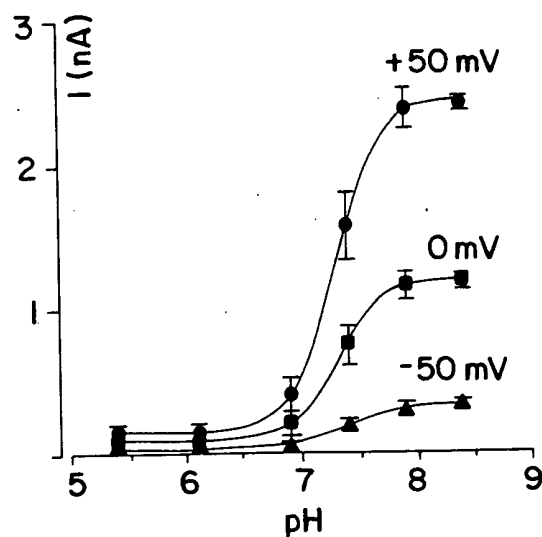


FIG. 13D

T04280-ES46660